The Madras Agricultural Journal.

(ORGAN OF THE M. A. S. UNION)

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# THE TWENTY-EIGHTH COLLEGE DAY AND AGRICULTURAL CONFERENCE, 1939.

The twenty-eighth College Day and Conference organised by the Madras Agricultural Students' Union came off this year between the 13th and 16th July. The Conference was held in the spacious quadrangle of the Research Institute under the chairmanship of the Hon. Mr. V. V. Giri, Minister for Industries and Labour with the Government of Madras. At 12 noon on the 13th July, the students of the college presented a guard of honour to the distinguished president who was received at the entrance by Mr. P. H. Rama Reddy, Director of Agriculture, Mr. R. C. Broadfoot, President and other office bearers of the Union. The hall was packed to overflowing with several members of the non-official public, officers of the department from far and near and the past and present students of the college. Among notable visitors were Sri. M. Bapineedu, Parliamentary Secretary, Sri. V. C. Vellingiri Gounder, Sri. V. C. Palaniswami Gounder, M. L. A., Sri. V. K. Palaniswami Gounder, M. L. A., Sri. K. Subramaniam, Chairman of the Coimbatore Municipal Council, Sri. A. Kanniah, B.A., B.L., Landlord and President, Roads Committee, Chittoor District Board, Sri. P. V. Hanumantha Rao, Landlord and Horticulturist, Panyam and Rao Bahadur Arulanandam Pillai, Retired Deputy Collector.

Mr. R. C. Broadfoot, Principal and President of the Union, welcomed the distinguished gathering in a neat little speech wherein he emphasised the importance of co-ordination between the Industries and Agricultural departments.

Several messages received from patrons, members, friends and well-wishers of the Union who were unable to be present at the Conference but wishing it every success, were read.

This was followed by the reading of the annual report of the activities of the Union by the secretary.

The Hon. Minister then gave away the prizes and medals won by the students of the college during the last academic year.

The Hon'ble Minister then delivered his presidential address which was listened to by the audience with rapt attention. In his speech he laid emphasis on the opportunities that lay ahead of the agricultural graduates

for service in the villages and the need for fostering cottage industries as an aid to agriculture. He exhorted the students of the college to think in terms of service to the people rather than service under the Government.

Fifteen papers covering a wide variety of subjects of agricultural importance were presented to the Conference. One pleasing feature was that as many as four papers were contributed by extra-departmental people. The papers evoked a great deal of discussion in which the departmental officers and non-official public took a lively interest thus contributing to a correct understanding of different view points.

The president, in winding up the proceedings, congratulated the Union and its members on the high quality of the papers presented and the standard of discussion which followed. He regretted that for want of time some of the papers could not be read and hoped that their publication in the *Madras Agricultural Journal* would make them available to a larger circle of agriculturists. In conclusion he complimented the Department on the work turned out and expressed the hope that it deserved the support of Government in every possible manner.

The Director of Agriculture, Mr. P. H. Rama Reddy, in proposing a vote of thanks to the Hon Minister said that he would bear in mind the proposal of Sri. T. V. Rajagopalachariar with regard to the utilization of temple lands and hoped that the graduates would not fail to take the opportunity to come forward and respond to the call. He assured the minister that he could count upon the department's fullest co-operation in connection with the industrial and agricultural planning contemplated by him.

With a vote of thanks by Sri. K. Unnikrishna Menon, the resident vice president of the Union, to the Director and to the several ladies and gentlemen who contributed to the success of the various functions, the Conference concluded.

The Students and officers of the Agricultural College entertained the Hon. Minister and other visitors on the 13th night. Short pieces in English, Telugu, and Tamil were enacted.

The College Day sports were held on Saturday, the 15th inst. and the Union was 'at home' to a large gathering of visitors. Mrs. D. D. Warren wife of the District Collector, kindly gave away the prizes.

As usual an exhibition featuring the activities of the department was held for the benefit of the public. This attracted a large crowd of visitors from the agricultural classes and educational institutions.

The Annual conference of Departmental officers was held on the 14th and 16th July under the chairmanship of the Director of Agriculture at which several topics pertaining to the administration of the department were discussed.

With the annual general body meeting of the Union held on the 16th morning the College Day and Conference came to a successful termination.

# Welcome Address.

*By R. C. Broadfoot Esq., President of the M. A. S. Union.*

The Committee of the Madras Agricultural Students' Union, the organizers of this annual function, extend a very cordial welcome to all present at this, the twenty-eighth Annual College Day and Conference and express the hope that the Conference will be like its predecessors, of benefit to those privileged to take part in its proceedings.

To you, sir, I would express on behalf of the Union our grateful thanks for accepting our invitation to preside over this conference. As Minister in charge of Industries and Labour, you have opportunities to co-ordinate the work of your Department with those of Agriculture and lasting benefit is likely to accrue to our rural areas through such co-ordination.

We welcome Sri P. H. Rama Reddi, our Director of Agriculture, and we express satisfaction at the honour recently conferred on Rao Bahadur V. Ramanathan, Cotton Specialist and Rao Bahadur K. Gopalakrishna Raju, Provincial Marketing Officer. The former as our editor and vice-president and the latter as one of our moffussil vice-presidents, have always taken a keen interest in the Union and its work. We greatly regret the premature retirement of Messrs. D. G. Munro and A. C. Edmonds who retired from service during the last year.

From the Conference programme you will note that a departmental exhibition has been arranged in the Freeman Building. The object of this exhibition is to bring forward in a convenient and concise manner the work of the research sections at the Agricultural College and Research Institute. The exhibition will be open daily till Saturday and I hope all will find time to pay it a visit during their stay.

The Central Farm like the adjoining areas of Coimbatore District has suffered greatly from drought and great difficulty has been experienced in maintaining a reduced area of cereal and fodder crops. As a result there are fewer representative crops than usual at this date, but the Farm yard, Dairy, Veterinary Hospital and Botanical Gardens are worthy of a visit from those interested in the practical side of our work.

We hold our Annual Sports on Saturday when the Union will be at home to all members and friends. We will welcome a large attendance at this function.

Last year saw another change in our educational policy, resulting in a redistribution of teaching responsibility whereby Chemistry, Botany, and Zoology classes become the responsibility of the respective research officers. A new post, that of Senior Lecturer in Agriculture and Superintendent, Central Farm, has been created and the designation of Assistant lecturers changed to Teaching assistants. Tradition in an educational institution is of similar importance to good-will in business. Changes interfere with its growth and are to be deprecated. It is too early to evaluate the effect of the change, but the college still maintains its popularity as a training centre, there being a substantial increase in the number of applications for admission this year. The new students have been selected with due regard to language, community and district.

The results of last year's B. Sc. (Ag.) examinations were very satisfactory and as a result, 40 agricultural graduates have been added to the number

qualified for a degree and desiring an opportunity to show that their training has a practical value in rural reconstruction.

Medals and prizes won during the last session will be presented during this Conference and I congratulate the winners on their success. Prize winners must realise that while the prize goes to a particular student the margin of marks is often very close and less fortunate students may derive comfort from this thought. To all students who have left this College, I wish the best of luck and fortune and I hope all will have some chance of playing their part in the future development of this great rural country. None is better qualified.

Finally a word on your duty towards the Union. It is hoped that wherever you may be you will continue your allegiance towards the Madras Agricultural Students' Union and help to maintain it as an important link between your work and your college days. It is worthy of and will appreciate your support in the years to come. In addition to its other functions the Union acts as an Employment Bureau. Unemployed graduates are advised to keep in close touch with the Secretary for such advice and assistance as is available.

Now to the Union's welcome I add my personal thanks for your presence and assistance in making this Conference a success.

## Messages.

The following are some of the messages received :—

The Hon'ble Mr. V. I. Muniswami Pillai, Minister for Agriculture and Rural Development, Fort. St. George:

"It is a matter, of great satisfaction, that, the twenty-eighth College Day and Conference, will be celebrated, under the Presidentship, of my esteemed colleague, Hon. Mr. V. V. Giri. As one, who is greatly interested, in the development of the country, and who has spared no pains, in taking a leading part in the industrial planning, of the country, I am sure, he will put forth salient points for the true foundation of an agricultural bias among the students and, those, who are connected with the agricultural department of this province. Due to other engagements it is not possible for me to be present, witness and hear the many useful speeches, that will be made on this occasion, but I am sure, that the important points advanced by the experienced and intelligent agricultural experts, will be given due hearing by the students and others assembled on this occasion. I wish the several functions, connected with this College Day, every success.

Sir A. P. Patro., K. C. I. E., Kt.:

"Thank you very much for your kind invitation for the College Day and Conference to be held on 13th July. I regret I shall not be able to attend the functions. I have been following the activities of the Research Institute through the columns of the journal which is very interesting reading".

R. Cecil Wood Esq., Former Principal of the Coimbatore Agricultural College, Hill House, Marlesford, Woodbridge, Suffolk:

"It was a pleasant reminder of old times to receive your invitation to the twenty-eighth College Day and Conference at Coimbatore and there is nothing that would give me greater pleasure than to attend and see for myself—all the changes and improvements that have taken place since I was there.

Since your last Conference, I have retired and am now—as you will see from my address—settled in England. Please give my remembrance to those of the

Department who were my contemporaries and accept my wishes for a successful Conference."

Dr. C. R. Reddi, Vice-chancellor, Andhra University, Waltair :

"Hearty congratulations on the College Day you are celebrating and best wishes for its ever-recurring success. The College has deserved well of the Presidency by its fine work and valuable researches"

Rao Bahadur B. Viswanath, F. I. C., Director of the Imperial Agricultural Research Institute, New Delhi :

"While I am very thankful to the Managing Committee of the Union for extending a cordial invitation to the 28th College Day and Conference, I cannot help regretting my inability to be in Coimbatore in the middle of July 1939. With best wishes for the success of the function."

Rao Bahadur M. R. Ramaswami Sivan, Retired Principal :

"Owing to other engagements which I cannot put off, I have to deny myself the pleasure of attending the College Day and Conference and of participating in the Old Boys' race at the annual Sports this year. As one of the founders of the M. A. S. U. as its first general secretary and as one who has held all the offices of the Union, I have a warm corner in my heart for the Union and wish success in all the items of the celebrations, under the sympathetic guidance of my friend, the Hon'ble Mr. V. V. Giri. With Hearty greetings and good wishes."

Rao Bahadur C. Tadulingam, Retired Principal.

"I thank you sincerely for your kind invitation to the College Day and Conference commencing from tomorrow. I regret very much my inability to be present owing to pressure of work. However, I take this opportunity to wish the Conference every success under the able guidance of Hon'ble Mr. V. V. Giri."

Messages were also received from the following :—

Sir R. K. Shanmugam Chetty, Dewan of Cochin, The Pattaigar of Palayakottai, Mr. A. Kaleswara Rao, Rao Bahadur Y. Ramachandra Rao, Dr. C. N. Acharya, Mr. A. K. Menon, Superintendent, Kerala Soap Institute, The Cane Superintendent, The East India Distilleries and Sugar Factories, Rao Bahadur K. Gopalakrishna Raju, Provincial Marketing Officer, Mr. Nizamuddeen Hyder, Director of Agriculture, Hydrabad, Mr. R. G. Nallakuttalam Pillai, His Holiness Kasivasi Swaminatha Thambiran Avl., Dr. Gilbert Fowler and Mr. K. Chengappa, Registrar of Co-operative Societies, Coorg.

## Report of the Managing Committee of the Madras Agricultural Students' Union, Coimbatore, for the year 1938—39.

*(Presented on the opening day of the Conference.)*

The Managing Committee of the Madras Agricultural Students' Union have great pleasure in presenting their report for the year 1938—39 which is the twenty-eighth report of the activities of this Union.

The College Day and Conference last year, was presided over by the Hon. Minister in charge of Agriculture and Rural Development Department, and it is a happy augury that the Committee have been able to secure the presence of his

distinguished colleague, the Hon. Minister in charge of Industries and Labour Department, amidst us today. Indeed it was chiefly with a view to laying stress on the importance of a close co-ordination between Agriculture and Industry that the Committee ventured to invite the Hon. Mr. V. V. Giri to preside over the deliberations of this Conference, though they were fully aware that he is one of the busiest of the Ministers in the Madras Cabinet. The Committee on behalf of the Madras Agricultural Students' Union take this opportunity to express their gratitude for the readiness with which he accepted the invitation in spite of the numerous calls on his time.

The Union has watched with great interest his activities in connection with the formation of the National Planning Committee, and is gratified to note that in the programme of that body, the development of scientific agriculture occupies a foremost place. Insurmountable as the obstacles seem to be today, owing to various disintegrating forces, the Union firmly believes that the salvation of our country lies in the concentration of our entire national will and energy on a co-ordinated plan of agricultural improvement and industrial expansion.

In this connection, may we, as men closely associated with agriculture, mention that notwithstanding the doubts expressed in some quarters, partly due to ignorance of world conditions, but mostly due to an inherent dislike that is in most of us to innovations, it is possible to raise the general level of crop production in India as elsewhere by intelligent application of modern science in our agricultural practices.

Russia, Germany, United States of America, Italy, England, indeed, all the civilised countries of the world, have within the last two decades, made their lands yield much more than the maximum yield during the beginning of the century.

The wise conservation of natural resources, the increase in the production of nitrogenous and other fertilisers, the widening of man's knowledge with regard to the activities of the millions of associated organisms which play an important role in increasing or decreasing crop production; the opening up for agriculture of new areas which, forty years ago, no human endeavour could have made to grow a single blade of grass, and the tremendous advances made in the science of plant breeding, have all contributed in increasing the output of the world's agricultural produce to an extent undreamt of before. And add to this, the extremely efficient organisation of marketing that obtains in most of these countries, has raised the standard of life of the farmer far above that met with in India.

What has been possible elsewhere is also possible in India. The achievements of the Agricultural Department in the Madras Presidency have not been insignificant, though considerable work still lies ahead, such as (1) conservation of manure and utilisation of waste products, (2) prevention of soil erosion, (3) improvement of livestock, (4) more extended supply of water to the villages, (5) maintenance of irrigation tanks and extension of irrigation projects, (6) extension of electricity to rural areas, (7) fruit preservation and (8) improved facilities for marketing. We may, in this connection, be permitted to submit that in the long run, it may not be a wise policy to restrict the activity of this Department or curb the enthusiasm of its members because of either financial stringency or the absence of immediate and perceptible monetary return for the amount spent on it.

The Government have shown their solicitude for the welfare of the ryot by various beneficial measures, such as the Prohibition Act, Debt Relief Act, the

Public Health Act, suspension and remission of revenues in various districts. the hastening up of the Tungabhadra project, schemes for rural water supply, etc, and we have no doubt whatever, that ere long they will direct their attention towards a well defined plan of agricultural improvement. In this connection we have to mention the regrettable fact that a good number of young men who have passed out of this college are without employment. Various proposals have been made from time to time, with regard to these men. We shall not attempt here to discuss the merits or demerits of all these proposals, but we would respectfully suggest that as matters stand at present, it will be in the best interests of Government to employ these men for the benefit of the rural classes. The graduates of this institution are, by their training, eminently suited for carrying out all branches of work connected with the villages and it is the earnest request of the Union that their talents and energy be recognised and utilized to the best advantage. We are glad that the Co-operative Department has advertised for enlisting a few of these men in its service, but we have to note with a tinge of regret that the salary offered may not attract our best men.

So far as the sphere of activities with which we are intimately connected is concerned, we would like to point out that the Department still suffers for want of more hands to carry on its work. The disquieting rumours of retrenchment have to a certain extent disheartened the members of the Union. We would earnestly request, that before any scheme of retrenchment is carried out, due care is taken that important limbs of the Department are not axed and we hope that more liberal amounts will be spent on this Department. In this connection, we cannot but express our sense of regret that our sister Institution, the Forest College had to be abolished at a time when proposals for national reconstruction are receiving the attention of some of India's best brains. Next to Agriculture, forests are the most important assets to the wealth of this Presidency, and we hope, as has been happily expressed recently by His Excellency, the Governor, that the possibility of revival at some future time, should facilities and resources become available, will not be forgotten.

**College Day and Conference, 1938.** The celebration of the College Day and Conference, one of the main activities of the Union, took place last year from the 21st to 23rd July under the distinguished presidency of the Hon'ble Mr. V. I. Muniswami Pillai, Minister in charge of Agriculture and Rural Development. The Conference attracted many visitors, including Mr. N. S. Varadachariar, Parliamentary Secretary. Thirteen papers comprising a wide range of agricultural subjects were read at the Conference by departmental officers and non-official workers.

On the 21st night, the students of the College entertained the Minister and other visitors by staging dramas and farces. The annual Athletic Sports were held on the 23rd July, and Mrs. P. H. Rama Reddy kindly gave away the prizes.

As usual, an Agricultural Exhibition depicting the various activities of the Department was held for the benefit of the visitors and the public.

A welcome feature of the Conference was a pleasant trip to the P. S. G. & Sons' Charity Industrial Institute, Peelamedu, kindly arranged by the management.

**The Madras Agricultural Journal:—** We are glad to state that during the year under report the Journal was published with promptness and regularity. The Journal continued to maintain the high standard associated with it. It is with pardonable pride that we mention that the Journal is becoming more and more popular and maintaining its high standard of excellence, not only among the research workers in the different departments and institutions, but also among

the puplic who are interested in improving agriculture. This Journal has on its exchange list a wide range of publications, including those from many foreign countries. In view of the great services now rendered by the Journal to the cause of improved agriculture, may we request you sir and through you the sympathetic and popular Government, to kindly consider the grant of a subsidy to the Union in order to enable it to be of more service to the country. We would also like to make use of this opportunity to appeal to the landed aristocracy of this country to extend their sympathy to the Union and the cause it serves by becoming patrons and thereby strengthening the financial resources of the Union.

**Our Members** :—We are glad that during the year, Sri. V. Ramanatha Ayyar, Cotton Specialist, and Sri. K. Gopalakrishna Raju, Provincial Marketing officer, have been honoured with the title of "Rao Bahadur". We offer our hearty congratulations to them, both members of the Union, on the well merited distinction conferred on them. It gives us pleasure to record that Dr. J. S. Patel, M. Sc. (Cornell), Ph. D. (Edin.), the Oil seeds Specialist and our ex-editor, was appointed as the Jute Specialist under the Indian Central Jute Committee, Calcutta. We are glad that Dr. S. Ramanujam, B. A. (Hons.), Ph.D. (London), Assistant to the Paddy Specialist was appointed as the Second Economic Botanist at the Imperial Agricultural Research Institute, Delhi, and that Sri. P. Uthaman, B.Sc. Ag., M. Sc., Assistant to the Paddy Specialist, accepted the post of first Research Assistant in Paddy breeding under the Government of Orissa. We are glad to note that Rao Bahadur T. S. Venkataraman, C. I. E., Sugarcane Expert and Mr. K. Ramiah, M. B. E., officiating Director, Institute of Plant Industry, Indore are invited to attend the ensuing Seventh International Congress of Genetics to be held in Edinburgh towards the end of August. The election of Rao Bahadur G. N. Rangaswami Ayyangar, F. N. I., I. A. S., as Member of the Council of the National Institute of Science of India, Calcutta, for the year 1939 and the appointment of Mr. K. Cherian Jacob, Assistant in Botany, as member of the Fodder and Grazing Committee are matters of great satisfaction to us.

**Obituary** :— We record with regret the passing away of Mr. M. E. Couchman, C. I. E., I. C. S., who was the first Director of Agriculture of our Province from 1906 to 1911. It may be recalled with pleasure that the first Agricultural Conference was held under his distinguished presidentship in the year 1911, the year of founding of the Union.

We have also to record with regret that Rao Bahadur D. Balakrishnamurthi, Retired Deputy Director of Agriculture, Sri. A. V. Thirumuruganatham Pillai, Retired Assistant Director of Agriculture, and Sri Arogiyaswami Pillai, Retired Assistant Curator, passed away during the year. The cruel hand of death has also snatched away from amidst us three of our promising young friends while they were still in harness, viz., Messrs. P. Gopalarathnam, Assistant, Cotton Section, K. Vasudeva Shenoi, Agricultural Demonstrator, Coondapur and Rajagopal Mal, Agricultural Demonstrator, Nanguneri.

**Acknowledgment**:— It is now our pleasant duty to record our thanks to all who helped the Union during the year. To the Hon'ble Mr. V. I. Muniswami Pillai, who presided over and guided the deliberations of the Conference last year the Union owes a deep debt of gratitude. To the gentlemen who contributed papers for the Conference we tender our sincere thanks; to Mrs. P. H. Rama Reddi who kindly distributed the prizes for the Sports, we record our grateful thanks; to Mr. P. H. Rama Reddi, The Director of Agriculture, the Committee tender their heart-felt thanks for his keen interest in the Union and the

**invaluable help rendered by him in arranging the Conference last year; to Mr. R. C. Broadfoot, who as president was actively helping the Union in its various activities our grateful thanks are due.**

**Our thanks are also due to all the other ladies and gentlemen who in various capacities helped the Union in the celebration of the College Day and Conference last year.**

## Presidential Address.

BY THE HON'BLE MR. V. V. GIRI

*Ladies & Gentlemen,*

I am deeply grateful to the Madras Agricultural Students' Union for the honour conferred on me in being invited to preside over this conference. It is indeed a pleasure, to associate myself with the activities of your department, which is in charge of my distinguished colleague the Hon. Mr. V. I. Muniswami Pillai, who is not only a minister but also an expert agriculturist himself. I can lay no claim to such distinction myself. You are lucky, in having a minister like him, and I am sure, you can expect a great deal from him. Before coming to this conference, I had occasion to go through the back numbers of your Journal, the perusal of which gave me an idea of what the Madras Agricultural Students' Union is doing, and I am glad to find, that the Union has been conducting its deliberations, all these years, in an excellent manner; and the Journal published by them is indeed very useful and deserves encouragement. I shall, certainly convey your desire for a subsidy to the minister concerned (Cheers).

It is needless for me in this place, to emphasise the importance of the agricultural industry in India. India is preeminently an agricultural country. It may be, that agriculture is not a paying proposition today but on that account, we cannot give up what is our primary industry. Nor can we give up our hand-loom weaving industry which, next to Agriculture, is the biggest industry of the province. Mills may come and mills may rule, but agriculture and hand-loom weaving are bound to persist—and shall persist. I consider it therefore, the bounden duty of everyone of us including the Government, to seek ways and means to make agriculture pay. It is an irony of fate that when agriculture is the primary industry of this country, a few students trained in this college are not all able to find a place in life, after they have finished their scholastic career. To my mind, the reason seems to be that the young men study in the College, with the sole object of securing a place under the Government. This is not, as it should be. I would ask the young graduates of the College to think more in terms of service to the people than look merely for service under Government, for after all, Government could give jobs to only a few people. If only the students of this college after completion of their course went to the landowners and undertook to organise their agricultural industry, I have no doubt that many landlords would agree to put their lands under the care of these young men. What is needed, is a change in the outlook of the students themselves.

The next point to consider is, how to make agriculture a paying proposition. Improved methods of farming have to be introduced, but the methods must be such as are evolutionary and not revolutionary in their character—methods which suit the genius of our race. There should be persistent organisation, and in this, the young students of this college have a great part to play. They should make the villager understand that the use of certain modern implements will be beneficial to him. My own feeling in the matter is, that no young man should be allowed to take his degree, though he has passed the examination, before he got into the rural parts, studied rural economy,– say for a period of six months, and produced some publication. We must have a net work of these villages having young men whom I would call as village guides, who will know something about co-operation, about agriculture, sanitation; in short about everything pertaining to rural parts. The aim of these men should be to make the village a happy place to live in.

I turn now to another aspect of the problem. It is not enough, if those who are interested in the prosperity of the country concentrated their attention on big industries and key industries alone. They should also think in terms of agriculture combined with cottage industries. Unless we create a subsidiary occupation for every family in the village, we cannot make agriculture pay.

Indian agriculture is suffering from another serious handicap—the lack of facilities for proper marketing and publicity of the goods produced through cottage industries. If cottage industries in Japan or elsewhere have succeeded, it is because of the proper marketing of the goods produced. It is to facilitate proper marketing of the products of the cottage industries that the Government are encouraging the establishment of museums, in every district, to begin with. If this scheme is successful, very soon we shall attach emporiums to the museums, so that people wanting particular articles could, on seeing them in the museums, get them then and there at the emporiums. If people wanted these articles in dozens and hundreds of dozens, we are conceiving the idea of opening ware-houses, for these articles. That is the programme of the Government and it is by the willing cooperation of everybody that this movement could be made successful. I am sure the students of the Agricultural College have a great role to play in this work.

Co-operation has a great part to play in rural prosperity. Co-operative societies must look after every aspect of human life in the village. Co-operative societies should also have, hereafter, multi-purpose ideas. I desire that the by-products of agriculture and industries that are possible through agriculture in rural areas, should be developed to the fullest extent, through co-operative societies. In this connection I am glad to find that research is done in this institute towards making India self-contained in malt. India imports from elsewhere Rs. 84 lakhs' worth of malt and most probably the raw material was sent outside for the purpose. I do not see why we should

not be self-contained with regard to this product, and save Rs. 84 lakhs to the producer of raw material in this country. Not only malt-making, but many other things are possible in this country.

Regarding the problem of the unemployed, let me assure you that the Government have been giving deep consideration to this question and have also gathered statistics. Here again, I have to state that the unemployed are equally responsible for the present state of affairs. I am almost tempted to think that most of our unemployed are unemployable also. If they are asked to go to the villege and do work, they will only think in terms of clerical jobs. No doubt it must be made possible for young men to stay in the village. But there must be the persistent desire in them to make any proposition successful.

Reference has been made to the National Planning Committee in the report of the Union. I am glad to note that the Madras Agricultural Students' Union appreciates the efforts of that committee in regard to the co-ordination of agriculture and industry. The committee has decided to set up 29 sub-committees to deal with agriculture and industries, and it is indeed a matter of gratification that the whole country is co-operating in this great enterprise. Not only all the provinces of India, but also the Indian states are lending their whole-hearted support to this committee.

Before I conclude, let me appeal to those young men who pass through this institution, to be the harbingers of a new era of prosperity and wealth to our country. You must be the agents to produce harmony between landlords and the ryots in the village. A time may come when you may have to tackle these things, and you will be doing a great service to the country, if you cease to be mere book-worms but like tried practical men, maintain peace in Industry and Agriculture. (Cheers and prolonged applause).

## List of Winners of Prizes for the Year 1938—39.

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| 1. | The Robertson prize. | A. Sankaram. |
| 2. | The Clogstoun prize. | K. S. Mahalingam. |
| 3. | The Keess prize. | V. Venkatasubramaniam. |
| 4. | The Sampson memorial prize. | N. Satyanarayana Reddy. |
| 5. | The Dewan Bahadur R. Raghunatha Rao prize. | R. V. Alagiriswami & A. Sankaram |
| 6. | The D'Silva memorial prize. | K. Bhaskaran. |
| 7. | The Goschen prize. | K. Bhaskaran. |
| 8. | The Anstead prize. | M. D. Azariah. |
| 9. | The Rao Bahadur K. S. Venkatarama Ayyar priz | K. M. Somanna. |
| 10. | The L. D. Swamikannu memoi | N. Satyanarayana Reddy. |
| 11. | The Certificate Course cup. | K. Bhaskaran. |
| 12. | The Old Cuddapah District Agricultural Association prize. | N. Bhaskara Reddy, T. D. Muthuswami & N. Satyanarayana Reddy. |
| 13. | The Gupta prize. | B. Narayana Reddi. |
| 14. | The M. K. Nambiar prize. | K. Bhaskaran. |

## Papers.

The following were the papers presented ;—

1. Fruit introduction: its problems and place in the national wealth—*M. Bapineedu.*
2. Sugar industry in Madras—*R. V. Sundara Reddy.*
3. Cambodia Cotton -*A. Kannayya.*
4. Some ploughing experiments—*V. Ramanatha Ayyar, S. Sundaram & N. C. Tirumalachari.*
5. Rice crop in Tanjore Delta—*M. Anandan.*
6. Cultivation of rice and the best method of marketing—*M. Gopala Chetty.*
7. Self help in economic farming—*K. Unnikrishna Menon.*
8. The present position of the pollu disease of pepper in Malabar—*K. M. Thomas & K. Krishna Menon.*
9. Rock-bee honey, its extraction and preservation—*M. C. Cherian & S. Ramachandran.*
10. Soil and water losses by run-off—*A. Subba Rao, S. V. Kuppuswami & A. Abdul Samad.*
11. The main cause of crop failure in the black soil tract of the Bellary district—*C. Vijayaraghavan & V. Panduranga Rao.*
12. Cashewnuts—*C. T. Ittyachan.*
13. Need for research in irrigation—*S. Krishnamurthi,*
14. Plantain in Madras and its orderly marketing—*Louis J. Royal.*
15. Cotton improvement in Tinnies and the necessity for its concentration—*K. L. Ramakrishna Rao.*

## President's Concluding Remarks.

*Ladies and Gentlemen,*

Let me congratulate the Union on the successful culmination of a most interesting session of their Conference. We have listened with profit to a number of instructive papers, though I regret that all the papers presented at the Conference could not be read for want of time. I am told, however that all these papers will, in due course, be published in your journal, and reach the wider public for whom they are intended. The discussion that followed some of the papers brought forth from two young men, views which were thought provoking—almost thought irritating. I appreciate them greatly. Mr. Louis had said that he is in a position to give us suggestions if the Government are prepared to co-operate and act on them. I most gladly accept the offer, and I would turn round and say to Mr. Louis "give us your suggestions first, and then see whether the Government co-operates or not". I do not say this in any spirit of derision. The way in which Mr. Louis had put in his views would provoke even a Government to do something and certainly it is the duty of Government to do something.

In this connection I am glad that Mr. T. V. Rajagopalachariar has put forward a very sound proposition for the Government to think over, and we have the assurance of the Director of Agriculture that he would give his attention to the subject. I have no doubt whatever that the minister in charge of Agriculture would do his best in the matter. Mr. Kannayya, wants to know what the intentions of the Government are in regard to this matter and what they are going to do about it. Let me assure him that the Government

are earnestly trying to find ways and means to put into effect some of their proposals such as, agricultural colonisation on a co-operative basis or otherwise wherein educated young men would be given an opportunity to show their mettle, their industry, and see how far they could provide for themselves and make a living. This proposition has been gone into very carefully by Government and I hope the decision would be soon known. I regret, however, to state, in this connection, that the experience of some of those who believed in this colonisation scheme, is far from encouraging. It is not to throw any cold water on the enthusiasm of any person that I am making this statement, but solely in order that the pros and cons of the question may be clearly and dispassionately discussed and the enthusiasts as well as the critics of the scheme may think for themselves and put forward practical and concrete suggestions. Those who have been working on these colonisation schemes seem to feel after some time that the matter is not so simple as was imagined. They found that young men who came to these colonies retained their enthusiasm for a few days only, in spite of the fact that they were provided with food and shelter. If ten came not even two remained, at the end of the first few months. Some of them left the place without even giving notice. This is a sorry state of affairs but I am a confirmed optimist in life, and am never discouraged—no, not even by this experience. I am a firm believer in the colonisation scheme myself and shall endeavour to give it a fair trial.

Young men should be brought to these colonies and made not only to work like ordinary agricultural labourers but also be given help in the shape of subsidiary industries so that they may be in a position to make a living for themselves. This subject had attracted my attention long before I became a Minister. Every effort shall be made in this direction; and the suggestions given by Mr. T. V. Rajagopalachariar and Mr. V. C. Vellingiri Gounder will be gone into not in a spirit of lip sympathy but with the definite practical sympathy on the side of the Government to see how far this idea could be exploited to the fullest advantage of the unemployed. A Government was not worth its name unless it tackled this problem and gave ordinary happiness and contentment to its subjects. It was up to the young men also to co-operate in an honest, sincere, persistent and consistent manner to see how this ideal could be achieved in practice. You should not think that simply because ten men happened to become ministers you could put all the weight on their shoulders and expect everything cut and dry and prepared. You are also part and parcel of this Government. You have a right to direct the Government as to how this ideal could be put into effect. If there is co-operation on all sides, the Government, the public and the unemployed, I am certain even this great demon of unemployment can be exorcised without much difficulty in a country like ours with its vast and varied resources.

Mr. Kannayya was referring to the question of agricultural demonstrators and want of patronage. I am sure a demonstrator would work not only

as a demonstrator but also as a social servant of the country who was bound to do social service out of his free will and not merely because he was paid. It all depended upon the spirit with which one worked. Therein lay the success of any undertaking. I am sure the time would soon come when the demonstrator will cease to be a demonstrator visiting a place only once in four months. It may not be possible to give a demonstrator to each village. But the time is coming when there should be expert demonstrators whose number was double and treble of what they are now. But still there must be some persons like a jack of all trades who know something about everything ; about the demonstrator's work, about the co-operator's work, about radio, etc. so that they can be useful to the villager. I can assure you the Government are also thinking in these terms as to how to provide such a machinery to help the rural population consistently throughout the year. This Government will not stop with investigations or merely set up some committees or commissions which were generally connected with omissions, but theirs would be commissions which would put their ideas into effect.

Before I conclude I must really congratulate the Director of Agriculture and the authorities of this college for training the students and themselves in a way that when they expressed themselves even the ordinary people were able to understand what they were talking about. I have learned a great deal about agriculture, in fact, more than I had learned during the 45 years of my existence and I really feel that I should make it a point as often as time would permit to attend conferences of this character. I am not saying so in any spirit of convention but I feel conscientiously that it will do good not only for myself but all the ministers to attend such conferences not as Ministers but as students willing to learn. **This institution deserves the support of the Government in every possible way.** I must confess that I had no idea of the work that is going on here. I am very glad to have known the inside of things to some extent, regarding the administration of this department and the way in which these annual conferences are being conducted. They are really beneficial and I do also feel that a conference of this sort should not be ended in two days but should have several days' discussions. The Government have a duty of establishing agriculture on an efficient basis with a network of cottage industries attached to it throughout the length and breadth of the country. I can assure you that this Government is not only responsible but responsive. Therefore it is bound to take into account the suggestions made from every quarter so long as those suggestions were useful and beneficial to the country.

Thank you very much for your patient hearing. (Cheers).

## College Day Athletic Sports.

The Annual sports were held on Saturday the 15th July on the spacious and artistically decorated grounds of the College. The weather conditions on the three days preceding the sports were threatening ; the slight but persistent showers, though they greatly alleviated the dust trouble, gave indication of making

their unwelcome presence felt on the sports day as well. But thanks to the last moment much-desired change in the weather conditions, the sky cleared and left us in peace to proceed with sports in almost ideal conditions.

There was a fairly keen competition among the contestents, in all the events. The record in Javelin throw was improved by Sri. R. Veeraraghavan by 9 feet and 7½ inches on his own throw last year. The record in High jump, 5 feet 1 inch was also equalled. This achievement also goes to the credit of R. Veeraraghavan.

M. R. Mohan Punja scored an aggregate of 55 out of a possible maximum of 120 marks by winning the first place in 5 events—Long Jump, 220 Yards Dash, Shot put, Quarter mile and Half mile and second place in High jump and thus secured the much coveted distinction of being the champion for the year. The next highest points, 36, were obtained by R. Veeraraghavan.

Mr. R. C. Broadfoot, President of the Union, made a short speech before requesting Mrs. D. D. Warren to give away the prizes. Sri. H. Shiva Rau, the President of the sports committee, proposed a hearty vote of thanks to Mrs. Warren for readily accepting the invitation and distributing the awards.

The Union was 'At Home' to all the Ladies and gentlemen who responded to, the invitation. The Union's thanks are due to Mr. & Mrs. M. C. Cherian, Mr. & Mrs. M. Kanti Raj and other members of the Tea sub-committee for their assistance in arranging and receiving the guests for the 'At Home'

The successful conduct of the Sports was largely due to the untiring efforts of Sri H. Shiva Rao and other members of the Sports Sub-committee.

## List of Prize Winners.

*Cross Country Race* (5 miles). (The Norris Cup). 1. D. Sundar Raj. 2. D. N. Murthy. 3. K. Narayana Rao.

*Hundred Yards.* (The Saidapet Old Boys' Cup). 1. L. V. Ratnam. 2. R. M. Sastry. 3. D. N. Murthy.

*Long Jump.* 1. M. R. M. Punja. 2. D. N. Murthy. 3. M. Ch. Kaulutlayya.

*220 Yards.* 1. M. R. M. Punja. 2. H. N. Kamath. 3. D. N. Murthy.

*Shot Put.* 1. M. R. M. Punja. 2. K. M. Somanna. 3. R. V. Raghavan.

*High Jump.* (Rao Bahadur C. Tadulingam Cup). 1. R. V. Raghavan. 2. M. R. M. Punja.

*Quarter Mile.* (The Prince of Wales Cup). 1. M. R. M. Punja. 2. H. N. Kamath. 3. N. Sreshta.

*Cricket Ball Throw.* 1. R. V. Raghavan. 2. H. N. Kamath. 3. S. V. Srinivasan.

*Half Mile.* 1. M. R. M. Punja. 2. H. N. Kamath. 3. N. Sreshta.

*Javelin Throw.* 1. R. V. Raghavan. 2. H. N. Kamath. 3. K. M. Somanna.

*Half Mile* (Invitation). 1 and 2 Government College Secondary and Training School.

*120 Yards Hurdles.* (Rama Swami Sivan Cup). 1. D. N. Murthy. 2. H. Madhuram. 3. R. V. Raghavan.

*Old Boys' Race.* (Handicap). 1. A. Mariekulandai. 2. K. K. R. Menon.

*One Mile.* (The Anstead Cup). 1. H. N. Kamath. 2. N. Sreshta. 3. R. M. Sastri.

*Inter Tutorial Relay Race.* (The Chunampet Shield). Mr. K. M. Thomas' wards.

*Obstacle Race.* 1. R. M. Sastry. 2. D. N. Murthy. 3. M. R. M. Punja.

*Intertutorial Tug of War.* (Ramnad Shield). Mr. K. M. Thomas' wards.

Champion—M. R. M. Punja.

# Soil and Water Losses by Run-off.

By A. SUBBA RAO, D. Sc., F. Inst. P.,
S. V. KUPPUSWAMI, B.A.
& A. ABDUL SAMAD, B.A., B. Sc. (Ag.),
*Dry Farming Station, Bellary.*

Erosion is a problem which is receiving increasing attention today. The enormous losses of soil which take place in a slopy or undulating country are well known. In the tract represented by the Hagari Dry Farming Station conditions are favourable for heavy losses of soil and water by surface run-off. The soil is clayey (black cotton soil), slow in allowing percolation of rain water to lower layers and the land is undulating in nature. Though the annual rainfall is 21 inches, about half of this is received within the course of about six weeks between September and October. The two main *Hingari* crops of the area, cotton and sorghum have to depend on the rainfall received before or about the sowing time, as the rainfall during the crop period is practically negligible. The land is not capable of absorbing the rainwater as fast as it is received. All these factors viz., the heavy nature of the soil, the undulating nature of the land and the great intensity of the rainfall contribute to severe erosion. Thus sheet erosion is a constant feature after heavy rains. Control of erosion and conservation of moisture are the most important problems of the tract.

An attempt was made during the last two years to determine the amount of water and soil lost by surface run-off in plots specially constructed for the purpose—two plots 66′ × 3¼′ (Area 1·25 cents) with a gradient of 1 in 80 (Plate 1) were selected. On three sides each plot was enclosed by galvanised iron sheets and the run-off was collected into masonry cisterns towards which the plots slope. The amount of water and silt collected as run-off was measured after each rain. Samples of run-off waters were analysed for total salts, lime, and nitrogen. These were also determined in samples of rain water collected on the corresponding days and the values obtained for the run-off waters corrected. The silt collected in 1937-38 was analysed for physical and chemical composition. During 1937-38 both the plots received the same treatment to start with viz., hand hoeing by the blade harrow and the results for the first season served as duplicates.

The data obtained for 1937-38 is summarised below: Out of a rainfall of 9·2 inches received on 11 days between the 3rd September & 13th October 1937, 4 inches of rain have been lost as run-off carrying with it 6·6 tons of silt per acre. The amounts of total salts, lime and nitrogen washed off per acre are 100·6, 2·45 and 0·11 pounds respectively. The rainfall lost is 44 per cent of the rainfall received on days when there was run-off.

**Effect of throwing the land into pockets:-** During 1938-39 in one of the run-off plots scoops were formed before the rainy season in order

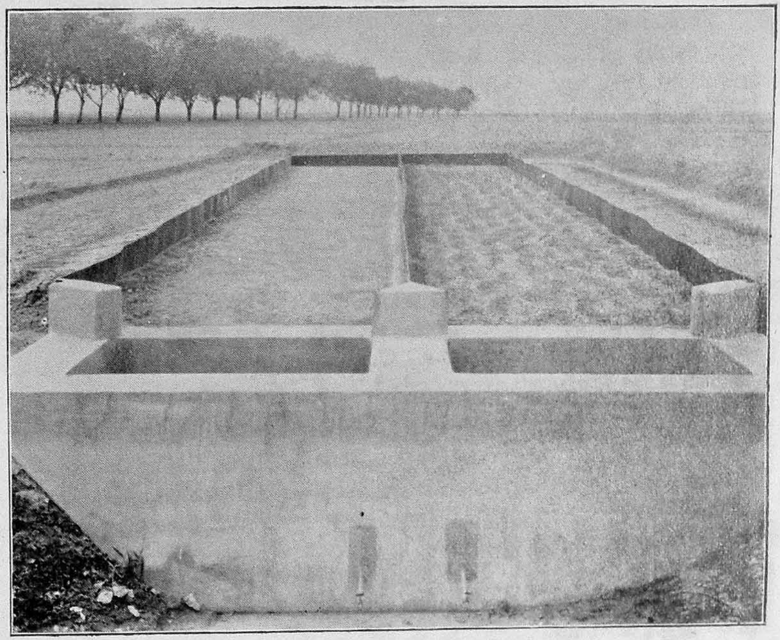

Plate 1. Run-off Plots.

*to study their effect on the control of run-off.* The *usefulness of throwing* the land into pockets is clear from the following figures for the run-off obtained for 1938-39.

| | *Control plot.* | *Sccoped plot.* |
|---|---|---|
| **Number of days when there was run-off (between the 3rd July 1938 and 30th September 1938.) ...** | 13 | 10 |
| **Total rainfall on days when there was run-off in either of the plots ... ... ...** | 15·66″ | 15·66″ |
| **Silt washed in tons per acre ... ... ...** | 9·86 | 3·60 |
| **Rainwater lost in inches ... ... ...** | 7·52 | 3·29 |

In the control plot about 50 per cent of the total rain water was lost as surface run-off which is in agreement with the results of the previous season. A single storm on the 28th-29th September 1938 was responsible for nearly a third of the total loss of silt and one-fourth of the total loss of water by surface run-off in the control plot. The pockets into which one of the run-off plots was thrown, effectively decreased the run-off of water to less than half the value for the control plot, while the silt washed off was nearly a third of the value for the control plot.

Physical analysis of the silt washed off the land showed that it consisted of about 80 per cent of the fine fractions clay and silt and chemically it was richer than the original soil. The nitrogen content of the silt was 0·043 per cent while that of the soil was only 0·024 per cent. Similarly the 'loss on ignition' was higher for the silt than for the soil. The silt washed off from the surface is, therefore, richer than the soil both from the physical and chemical point of view. During the course of the washes, the coarser particles settle down and the finer richer material is washed off.

It is interesting to note in this connection that at the Sholapur Dry Farming Station (1) it was found under the same conditions of gradient and size of plot that in a clean fallow plot, 5·8 inches of rain water and 25 tons of soil per acre were lost during 1935-36 when the rainfall on days when there was run-off amounted to 14·8 inches. The soil removed per inch of rainwater lost was 4·3 tons per acre, while the corresponding figures for Hagari are 1·6 tons per acre during 1937 and 1·3 tons per acre during 1938.

Some of the American workers have reported considerable losses of soil by erosion. In Texas Agricultural Experiment Station Reports (2) it was reported that "with every inch of water lost, there was approximately 3 tons per acre of soil by erosion."

As pointed out earlier in the paper, the actual amount of silt or water washed off depends on the intensity of rainfall and the physical condition of the soil apart from the slope of the land. But it is clear that in places where the problem exists, it is very serious and all attempts should be directed towards controlling the run-off.

During 1936-37, in one short spell of heavy rains it was found that land differently treated absorbed rainwater as follows in the layer 0 to 3 feet

Rainfall between 23—9—'36 and 10—10—'36 = 6·79'
= 687 tons of water per acre.

| Treatment. | | Percentage of rainfall absorbed by the soil. |
|---|---|---|
| Control (no bunding, no ploughing) | ... | 10·1 |
| Bunded only ... ... | ... | 28·6 |
| Ploughed and bunded ... | ... | 40·6 |

(The losses include moisture lost by evaporation and run-off).

When the intensity of rainfall is very high, only 10 per cent. of the rain water was absorbed by the 'Control' field while 'bunding' and 'bunding combined with ploughing' helped to retain 29 and 41 per cent. respectively of the rainfall received during the period.

**Indirect Influence of Conservation of Water.** (a) Conservation of moisture has another indirect effect on these heavy soils. It is well known that clayey soils crack heavily due to the swelling when wet and shrinkage on drying. The changes in the volume of the soil are very large and it was found that the soil at Hagari is capable of a total shrinkage of over 65 per cent. by volume when passed through a sieve of 100 mesh to the inch i. e., when 165 cubic feet of soil are dried completely starting from the 'sticky point' (about 40% moisture content) the volume will be reduced to about 100 cubic feet. In the field the shrinkage will be naturally less than this owing to the presence of coarse particles and as the range of moisture, the soil has to pass through, in one season is limited. If, however, we can succeed in reducing the desiccation of the soil during crop growth, the shrinkage will be less and there is less possibility of wide cracks developing during the crop period.

(b) A second and more interesting effect of conserving moisture in heavy soils arises out of the following considerations. Heavy soils on account of their high colloidal status tend to become sticky when wet and very hard when dry. Losses of soil moisture by evaporation are most effective in the top 12 inches of the soil. This layer after reaching the maximum field capacity for moisture during the rainy period is subjected to sudden drying thereafter. The layer of soil between 3 inches and 12 inches thus becomes very hard if the desiccation is rapid—the top three inches of soil remaining in a loose and friable condition, being disturbed by interculturing and exposed to alternate heating and cooling on account of diurnal fluctuations of temperature. If this hardness sets in later in the life of the plant, when it has established itself well, it may not affect the crop growth; but if, by adverse weather conditions, the hardness sets in early, the crop suffers very badly on this account. By conserving moisture, the setting in of the hard layer may be postponed to a stage when it is of no consequence to the growth of the plant.

**References.**

1. Report of the Bombay Dry Farming Research Scheme, Sholapur and Bijapur for the year 1935–36. Page 14.
2. Texas Agricultural Experiment Station Reports 1927 and 1928.

# Rice Crop in Tanjore Delta.

BY M. ANANDAN, L. Ag.,

*Superintendent, Agricultural Research Station, Aduturai.*

**Origin of the Tanjore Delta** Thousands of years ago, the area occupied by this fertile delta must have been a deep inland sea extending upto Tirukattupalli, the westernmost point in it. The view that this delta must have been a deep sea is also strengthened by the fact that borings taken down to 300 feet on the Aduthurai Agricultural Station brought up only deposits of clay and sand, and failed to strike any rocky stratum throughout this depth. It must have been naturally formed by the slow deposit of alluvium brought down by the Cauvery river and its branches. If we assume that the river Cauvery spreads silt over this million acres to a depth of $\frac{1}{8}$th of an inch annually, it would have taken nearly a century to raise the level of the land by a foot. The quantity of silt so deposited each year would be about 12 million tons. Taking the present average altitude of the delta at 75 feet above the sea level, the land mass should have emerged out of the sea more than 7500 years ago. So the colonisation of this delta must have occured within the last 7500 years if the rate of annual deposit of silt has been $\frac{1}{8}$th of an inch as assumed. We may also assume that the colonists were acquainted with the rice plant and they must have brought it with them for growing in this new area.

**Area under rice.** Out of the 11 million acres under rice in this Presidency, Tanjore delta alone accounts for a million acres. This area is being steadily increased by bringing under paddy cultivation land commanded by the Grand Anicut Canal commonly known as the Mettur Project area or the new Delta, though in the strict sense of the word it is not a Delta at all. An addition of $3\frac{1}{3}$ lakhs of acres is expected to be developed in this area.

**Soil of the delta.** The soil, as already stated, is of alluvial origin and is mostly clayey in texture and deep. It shrinks during the summer and as a result cracks heavily, the cracks extending to 2 feet in depth and 2 to 3 inches across. The western half of the delta has soils of coarser texture than the eastern half. The soil is very peculiar in its behaviour. It is very sticky when flooded and waxy when handled in the course of drying after a flooding. It is friable after a heavy rain in summer, particularly so after deep cracking, and produces excellent tilth when ploughed. But ploughing the land during summer is considered harmful by the cultivators and so the bulk of the land is left unploughed and remains a bare fallow till inundated during the next paddy season in June. Experiments conducted on the Aduthurai Station for five consecutive seasons have confirmed this belief to be true as ploughing invariably reduced the yield of the succeeding rice crop by about 10 per cent. Soils are generally deficient in nitrogen, phosphoric acid and humus.

**Paddy season.** Before the construction of the Mettur dam, the paddy season in this delta used to start during the last week of June or as late as the 10th of July depending on the arrival of the freshes in the Cauvery which in turn depended upon the early or late outbreak of the South West monsoon in Coorg. But after the advent of the Mettur irrigation system, water is allowed for starting the cultivation precisely on the 15th of June each year. This has advanced the paddy season in this delta by 3 weeks and gives certainty of water supply to enable the *mirasdars* to raise their nurseries in time and prepare in advance their cropping scheme for the season with greater exactitude. The paddy season closes by the end of February of the following year.

**Climate and rainfall.** The annual range in temperature is between 60° and 112° F. The cool months of the year are from October to March with temperature ranging from 60° to 98° F., while the hot summer months are from April to September with temperature ranging from 70° to 112° F., the hottest month usually being May.

The average annual rainfall is about 43 inches, the hot weather months from March to May account for about 5 inches; the South West monsoon from June to September brings in 8 inches and the North East monsoon from October to January makes up the balance of 30 inches.

**Number of paddy crops taken during the year.** More than a fourth of the paddy area is cropped twice during the season, the first crop known as *Kuruvai* occupying the land from June to the end of September and the second crop known as *Thaladi* from October to the end of February. The rest of the area which forms the bulk is cropped only once during the year. It is cropped with *Samba* which runs from the middle of July to the middle of February of the following year.

The varieties grown during the *Kuruvai* or the first crop season are of short duration, ranging in age from 90 to 120 days, while those grown as the second crop and the *Samba* crop are of long duration, ranging from 5 to 7 months.

Another system of growing paddy peculiar to this district is the deliberate mixing of seeds of a short duration *Kuruvai* of 90 days with a 7 months samba variety called *Ottadan* in the proportion of 3:1. The seedlings raised from such mixed seeds are planted in bunches in the field. The result is that the plants coming from *Kuruvai* seeds come to harvest at the end of the third month while the cut stubbles of the young *Ottadan* crop start their vigorous growth after the harvest of the *Kuruvai* crop and comes to harvest only at the end of the seventh month. This system of growing two paddy crops with a single operation of sowing and of planting is known locally as *Udu* cropping. It is practised in about a lakh of acres chiefly in areas incapable of draining during the rainy season.

The practical consideration that has guided the grower in taking a short duration crop first and a long duration one as second crop is mainly based on the outbreak and duration of the North East monsoon rains. He plants

and takes off a short duration crop from June to September before the onset of the North East monsoon in October. He plants the long duration samba and second crops before or during the North East monsoon rains and brings them to harvest after the rains have ceased in January. This plan works generally well because in both cases he tries to secure the crops in bright weather, the first crop before, and the samba and second crops after the North East monsoon rains.

**Sowing and Planting.** There is hardly any broadcast paddy crop in the Tanjore delta. The universal practice is to raise the seedlings in nurseries and transplant them. For *Kuruvai* crop, nurseries are raised under semi-dry conditions while for *Samba* and *Thaladi* crops they are typically wet. To plant an acre the *mirasdars* use 10 cents of land as nursery. So to plant the million acres under rice, they use a lakh of acres for nurseries each year. This is as it should be. But, unfortunately, they sow 2½ to 3 Madras measures of seed in each cent of such nursery where there is room and necessity only for 1 Madras measure to produce robust seedlings to plant an acre. Instead of sowing 100 lakhs of Madras measures of seed in one lakh of acres of nursery, they are unnecessarily overseeding them and wasting away year after year 150 to 200 lakhs of Madras measures of seed, out of pure ignorance. The direct loss in value of seed so thrown away which they can totally avoid, is anything from 12 to 15 lakhs of rupees each year, taking the price of seed at 12 Madras measures per rupee. This practice has been going on for centuries. I am afraid the rice growers in other parts of the presidency also waste seed similarly. I am sure that the paddy seed so wasted is worth nearly a crore of rupees per year in this presidency. The indirect loss in yield of crops by planting ill-developed and puny seedlings resulting from the thickly sown and overcrowded nurseries is still more colossal. Putting 2 *kalams* or 48 M.M. per acre as the average reduction in yield by this practice, the loss from a million acres will be 2 million *kalams* of paddy every year worth 3 million rupees taking the price of paddy at Rs. 1—8—0 per *kalam* of 24 M. M. If this wastage could be stopped through some means and the savings so effected are spent on manuring the rice crop, the country would be infinitely richer than what it is to-day.

Pulling and transport of seedlings are solely done by men but the actual planting is done by women. An acre takes about 10 to 12 women to plant. Seedlings are planted in bunches of 4 to 10 spaced 8 to 10 inches apart.

**Cultivation and Manuring.** Transplanted fields get a *mammatty* digging followed by a course of 3 or 4 ploughings with the country plough, the depth of ploughing or digging never going beyond 4 inches below the surface. It is indeed a difficult task to make the *mirasdars* use iron ploughs and other more efficient implements so long as they neglect to maintain far better work-animals than they now possess.

*Kuruvai* crop gets the bulk of the poorly prepared cattle manure and ashes, while *Samba* crop gets little of them. Green manure, mostly *kolinji*

and to a small extent *daincha*, is grown in about a lakh of acres now. *Mirasdars* are showing great interest in extending the area under green manures, specially *daincha*, after seeing the good yields obtained at the Aduthurai Research Station as a result of the combination of green manures and artificials. An increase of 50% in yield of the rice crop in Tanjore is a practical and highly paying proposition if the *mirasdars* can be induced to adopt the following manurial programme the Aduthurai Research Station has been adopting and advising during the past six years. Plough in 4,000 lbs. of green manure, apply 25 lbs. of bonemeal and 25 lbs. of superphosphate at the time of planting and 50 lbs. of ammonium sulphate per acre 50 days after planting a *Samba* crop or 25 days after planting a *Kuruvai* crop, costing in all about Rs. 6 per acre. This manurial programme would involve growing *daincha* crop in about $2\frac{1}{2}$ lakhs of acres and buying 11,000 tons of bonemeal, 11,000 tons of superphosphate and 22,000 tons of ammonium sulphate for manuring the million acres. This may cost 6 million rupees annually.

This programme, if persistently followed, will result in an extra yield of 15 million *kalams* of paddy or about 19 million rupees taking the present average yield as 30 *kalams* per acre, and the selling price of a *kalam* at Rs. 1—4—0. The net annual increase in wealth after deducting the cost of manuring will then be about 13 million rupees for this delta.

**Irrigation and drainage.** The main irrigation channels take off directly from the Cauvery river and its numerous branches traversing the delta. These main channels are connected with a network of branch and field channels. They serve as drainage channels as well. Due to long neglect by the cultivators they have silted up badly and so have gone down in efficiency considerably, especially so as a drainage system during the rainy season when the flat delta gets inundated. In irrigating their rice crop, *mirasdars* wrongly believe that they should maintain an ever increasing depth of water in their fields in keeping with the growth of the crop. Experiments conducted on the Aduthurai station have definitely shown that for getting the maximum yields there is no necessity to keep more than 2 to $2\frac{1}{2}$ inches of water in the field at any time and that no harm results if no standing water is allowed in the fields for 2 days in between the two waterings. This question of intermittent irrigation has a great bearing on the question of mosquito breeding in the paddy fields, apart from the question of the economic use of the irrigation water from the Mettur system which has cost the tax-payer nearly 7 crores of rupees.

**Harvesting and Threshing.** Harvesting of the crop is done both by men and women, 8 men and 4 women forming a team to finish the harvest, transport, threshing and winnowing the produce of an acre. Transporting is generally done by men while women help in passing sheaves to the men engaged in threshing and winnowing the threshed produce. No machinery of any kind is used for harvesting, transporting, threshing, winnowing, bagging or storing the produce from the million acres of rice in the delta

except the simple sickle, the bamboo winnow, the improvised mud threshing floor in the fields on elevated grounds, the unfailing seasonal winds during the afternoons and the human labour. The estimated annual production of paddy (or rice in the husk) is 30 million *kalams* of 24 Madras measures each. Out of this quantity, one million *kalams* are reserved for seed and the remaining quantity is available for local consumption and export.

**Aduthurai Agricultural Research Station & its usefulness**. The station is located almost in the centre of the delta and has been and is still playing a useful part in the improvement of the rice crop since its inception 17 years ago. It has been possible to evolve high yielding strains either through selection from existing varieties or through hybridisation of desirable types. The Station has issued for general cultivation 17 strains during the 17 years of its existence. Half a dozen more strains are almost ready for release shortly. At a most conservative estimate, these strains have covered more than 7 lakhs of acres in this delta and an equal area in several other districts of this presidency.

The increased yields given by these strains over the unselected varieties grown by the cultivators vary anything from 10 to 30%. Even taking the lower figure as the average increase, for assessing the extra yield obtained by the growers, it represents an increase of 3 *kalams* for every acre grown with the strains, or 21 lakhs of *kalams* from the 7 lakhs of acres in this delta alone or in money value over 30 lakhs of rupees. The growers in other districts of the presidency are also getting similar benefits, judging from the increasing demands from those districts for several of the paddy strains of the station. The other directions in which the Aduthurai station has helped the rice grower are in the use of the improved ploughs, more efficient and labour saving implements, like the green manure trampler, the puddler and the levelling boards, the method of preparing ideal seed beds, the growing of green manure crops like *daincha*, sunnhemp and *pillipesera* during different seasons of the year and the correct combination of artificials with green manures so grown, to get the maximum yields. The station yields obtained in this season which is acclaimed to be very adverse speaks eloquently of what is possible if improved methods of cultivation are followed. The average of the *Kuruvai* crop was 3,600 lbs. per acre, the maximum being 3,900 lbs. and of the *Samba* crop well over 4,000 lbs. with a maximum of 4,950 lbs. and of second crop 2,300 lbs. with a maximum yield of 2,600 lbs., while the average yields obtained by the mirasdars for respective crops were only 2,300 lbs., 1,900 lbs. and 1,500 lbs.

The yields obtained on the Aduthurai station show in every case an increase ranging from 50 to 100% over those obtained by the *mirasdars*. They also show clearly that by adopting scientific methods in growing the rice crop, much of the rigour of an adverse season can be neutralised.

So I make a fervent appeal to the rice growers of the Tanjore district, in particular, and to those in other districts, in general, to adopt the improved methods that have been found to give an increase in yield, and profit by them.

# The Madras Agricultural Students' Union.

The Annual General Body meeting of the Madras Agricultural Students' Union was held on Sunday, the 16th July 1939 with Mr. R. C. Broadfoot, Principal of the Agricultural College and *ex-Officio* President of the Union in the chair. Sixty members including 17 students were present. The President in his introductory remarks thanked the various sub-committees of the Conference for the successful way in which the College Day was conducted this year. He made particular mention of Mrs. M. C. Cherian and Mrs. M. Kanti Raj who were responsible for the excellent arrangements made for the 'At Home', on the Sports day. He also complimented the Secretary for his work during the year.

The minutes of the previous meeting were then read and adopted.

The annual report, including the statement of accounts for the year 1938—39, was then presented before the meeting. Mr. M. R. Balakrishnan in proposing the adoption of the annual report congratulated the Managing committee on the successful way in which the affairs of the Union were managed. He appealed to the moffusil members to enlist more members to the Union and more subscribers to the Journal. The report was then adopted *nem con.*

The next item in the agenda—the consideration of the Budget, prepared by the Managing Committee, evoked a good deal of discussion, consequent on Mr. S. Krishnamurthi's suggestion that a sum of Rs. 100 be set apart for tea exclusively for members, moffusil and local, in order to enable them to meet together. After a lengthy discussion, it was proposed that the expenditure for such a 'social' be restricted to Rs. 50 per annum. This proposition was put to vote and carried. Rao Bahadur V. Ramanatha Ayyar moved that the budget with the above modification be passed. This was seconded by Sri P. S. Narayanaswami and then passed by the General Body.

The resolutions, given notice of by the Managing Committee, (vide members' supplement) were moved from the chair and passed by the house unanimously.

The following office bearers for 1939—40 were then elected:— **Council.** Moffusil Vice president:— Messrs. K. C. Naik, U. Vittal Rao and M. Anandan; Moffusil members:— Messrs. D. Panakal Rao, M. R. Balakrishnan, N. H. V. Krishnamurthy and K. H. Subramaniam; Resident members:— Rao Bahadur S. Sundararaman, Rao Sahib T. V. Rajagopalachariar and Rao Sahib V. Muthuswami Ayyar. **Managing Committee.** Resident Vice president;— Mr. M. C. Cherian; Editor:— Mr. K. M. Thomas, Secretary:— Mr. K. Sanjiva Shetty; Manager:— Mr. S. Krishnamurthi; Treasurer:—Mr. V. Gomathinayagam Pillai Members:— Messrs. S. M. Kalyanarama Ayyar, M. A. Sankara Ayyar, and P. A. Venkateswara Ayyar. **Editorial Board.** Editor, Secretary, Manager, and Messrs C. M. John, M. S. Kylasam and C. S. Krishnaswami.

The election of a student representative, in addition to the ex-officio club Secretary, for the above bodies, was held over to be conducted at a meeting of the student members.

A resolution of condolence moved by Mr. K. Unnikrishna Menon on the sad demise of Rao Bahadur D. Balakrishnamurthi, Messrs. Thirumuruganatham Pillai, M. Arogiaswami Pillai, R. G. Mal Vasudeva Shenoi and Gopalaratnam, was unanimously passed, all members standing.

In winding up the proceedings Mr. K. Unnikrishna Menon thanked Mr. R. C. Broadfoot, the President, for his guidance and help in managing the affairs of the Union. He also expressed his thanks to Mr. M. C. Cherian who took his place

and discharged the duties of the Vice-president, in his absence. He also mentioned the sad fact that many officers of the Department were not members of the Union.

## Report of the Managing Committee for the year 1938—'39.

The Managing Committee beg to present the following report of the activities of the Union for the year 1938—39.

**Membership** :-- The strength of the Union as it stood on 31st May 1939 was 450 against 460 last year and 450 of the previous year. We have again to record with regret that many officers of the Department—over two-fifths—are not members of the Union. We take this opportunity to appeal to such of those District Officers who are not already members to enlist themselves and also help us in enlisting more members to the Union so that the financial position of the Union may be on a sounder basis. Although last year the membership of the students was 113, it came down to 94 this year. We hope that this temporary decline will be made up this year, through the efforts of Mr. M. Kantiraj, the hostel warden.

**Office-bearers** :-- Consequent on the transfer of Dr. J. S Patel, the Editor, to Dacca as Jute Specialist as well as the resignation of Mr. Bhavani Sankar Rao, the Manager, two vacancies arose in the Managing Committee; the former vacancy was filled up by Mr. M. C. Cherian and the latter by Mr. V. Gomathinayagam Pillai. In the temporary absence of the Resident vice-president, Mr. K. Unnikrishna Menon, the Managing Committee requested and authorised Mr. M. C. Cherian to look after the duties of the Vice-President which he kindly accepted to do.

**General Body Meeting** :— A general body meeting of the resident non-student members was held on 1—10—1938 with Mr. R. C. Broadfoot in the chair in order to consider the representations made by students at the time of the last general body meeting. The resolutions passed at that meeting were circulated to members in the form of a supplement to the *Madras Agricultural Journal* for October 1938.

**Meetings of the Managing Committee** :— Eight meetings of the Committee were held during the year.

**Journal** :— The Journal continued to be published with promptness and regularity during the year. The Committee wish to record that a fairly good number of articles on various subjects was received for publication in the Journal. We take this opportunity to record our thanks to the various authors who have contributed to the success of the Journal. But we wish to mention with regret that, in spite of requests, contributions of general agricultural interest from officers who are working in the districts were comparatively few. We take this opportunity to appeal to these officers to evince more interest in the Journal and in the public by sending popular articles and thereby helping the cause of improved agriculture.

**Editorial Board** :— In the vacancy caused by the elevation of Mr. M. C. Cherian to the editorial chair, Mr. M. S. Kylasam was elected as a member of the Editorial Board. We have great pleasure in recording our thanks to Dr. J. S. Patel who was the Editor of the Journal till November 1938 as well as to Mr. M. C. Cherian who succeeded him and to other members of the Editorial Board for the efficient conduct of the Journal.

**Subscribers** :— The number of subscribers (non-members) to the Journal during the year was 230 as against 180 of last year and 200 of the previous year. Thirtyfive journals (Indian and foreign) were in the exchange list. The increase in the number of subscribers is an indication of the popularity of our Journal. The moffusil members would be rendering a great service to the Union if they would help in enlisting more subscribers and making the Journal more popular.

**Finance.** The auditors' report and the financial statements are now presented before you. Our finances have maintained fair progress in spite of the fact that during last year the receipts under donations and entertainments for the College Day were far below our expectation, being only about a half of the budgeted amount.

**Employment of Agricultural Graduates.** We regret that the Union has not been of more service in the matter of finding employment for Agricultural Graduates. We hope that the Director of Agriculture would be good enough to look into this matter and redress their grievances.

**Ramasastrulu Endowment.** We received two papers for this prize but we regret to report that the judges were of opinion that the papers were not of a sufficient standard to merit the prize.

**Lectures.** Under the auspices of the Madras Agricultural Students' Union Rao Bahadur B. Viswanath delivered a lecture on "New Pusa" on 1—8—1938 and Dr. Pattabhi Sitaramayya addressed the members of the Union on 17—6—1939 both under the presidency of Mr. R. C. Broadfoot, the President of the Union.

**Acknowledgment.** Now it is our pleasant duty to thank the various members of the Union who helped it during the year. We have pleasure in recording our grateful thanks to the conveners and members of the various sub-committees who wholeheartedly helped us in celebrating the College Day last year. We are specially grateful to Mr. & Mrs. Cherian Jacob who arranged the Tea for the visitors on the Sports Day and to Mr. C. Ramaswami who was responsible for conducting the Sports successfully. Our thanks are due to Mr. J. H. Longrigg, Principal, Madras Forest College, for loaning us tents and chairs. We need not add how indebted the Union is to Mr. R. C. Broadfoot, Principal and President of the Union who has been as kind and sympathetic as ever and ready to help and guide us in managing the affairs of the Union.

P. A. Venkateswaran,
Secretary
For the Managing Committee.

# Crop and Trade Reports.

**Groundnut - 1939—Summer and early crops—Condition report.** Sowings of the summer crop of groundnut and of the early crop in the districts of Salem and Coimbatore are generally below normal on account of insufficient water supply as a result of the failure of the North-east monsoon last year.

Harvest of the summer crop of groundnut has commenced in parts. The yield is expected to be normal only in South Arcot and below normal in the other districts. The early crop of groundnut in Coimbatore is generally fair.

The wholesale price of groundnut (shelled) per imperial maund of 82$\frac{2}{7}$ lb. (equivalent to 3,200 tolas) as reported from important market centres on 10th July 1939 was Rs. 5—0—0 in Cuddalore, Rs. 4—12—0 in Vizagapatam, Rs. 4—9—0 in Guntur, Rs. 4—8—0 in Vizianagaram, Rs. 4—3—0 in Cuddapah and Vellore, Rs. 4—2—0 in Tadpatri, Rs. 3—15—0 in Nandyal, Rs. 3—14—0 in Adoni and Bellary, Rs. 3—13—0 in Hindupur and Rs. 3—12—0 in Anantapur. When compared with the prices published in the last report, i. e., those which prevailed on 11th April 1939, these prices reveal a rise of about 27 per cent. in Tadpatri, 24 per cent. in Adoni and Cuddapah, 22 per cent. in Bellary and Hindupur, 21 per cent. in Vizagapatam and Nandyal, 20 per cent. in Vizianagaram and Vellore, 19 per cent. in Cuddalore and 18 per cent. in Guntur and a fall of about 5 per cent. in Anantapur

(*From the Director of Industries and Commerce*).

**Cotton Raw in the Madras Presidency.** The receipts of loose cotton at presses and spinning mills in the Madras Presidency from 1st February to 14th July 1939 amounted to 340,060 bales of 400 lb. lint as against an estimate of 388,900 bales of the total crop of 1938-39. The receipts in the corresponding period of the previous year were 310,721 bales. 259,711 bales mainly of pressed cotton were received at spinning mills and 122,721 bales were exported by sea while 111,879 bales were imported by sea mainly from Karachi, Bombay and Egypt.

*(From the Director of Agriculture, Madras).*

# College News and Notes.

**Students' Corner — Students' Club.** The inaugural address of this club was delivered on the 14th July by Sri Bapineedu, Parliamentary Secretary to the Hon'ble Minister for Public Information with Hon'ble Mr V. V. Giri Minister for Industries and Labour, in the Chair. The learned lecturer exhorted the students to be ambitious in life and to play their great part in the building of our nation. The president endorsed the advice given by Sri Bapineedu.

**Cricket.** The opening match of the cricket season was played on Sunday the 16th inst. between the old boys and the rest. Messrs. C. Ramaswamy and H. Shiva Rao opened the innings for the 'rest'. Their side declared after scoring 127 for 7 wickets (C. Ramaswami 22, K. M. Somanna 39, Satyanathan 35.) The old boys followed and were all out for 174 (K. K. Menon 35, Varadarajan 50, Mukundan 49, S. V. Srinivasan 5 for 45). The old boys thus won the match.

**Personal.** We are glad to learn that two of our members, Mr. K. Ramiah, Geneticist and Botanist, Institute of Plant Industry, Indore and Rao Bahadur T. S. Venkataraman, Sugarcane Expert, have been invited to attend the International Congress of Genetics at Edinburgh.

We note with pleasure that the Government of India have been pleased to extend the term of service of Rao Bahadur T. S. Venkataraman, Govt. of India Sugarcane Expert, for a period of three years.

**University Board of Studies in Agriculture.** A meeting of the Board was held in Madras on 8th July. Messrs. R. C. Broadfoot, G. N. Rangaswami Ayyangar, C. Ramaswami, H. Shiva Rao and M. C. Cherian attended from Coimbatore.

**The Association of the Upper Subordinates.** The Annual General Body Meeting of the above Association was held on 14th July 1939. After the reading and adoption of the Annual report for 1938-39, the following Office bearers for 1939--40 were elected.

President :- Sri S. Dharmalinga Mudaliar
Secretary :- Sri P. A. Venkateswaran

Members of the Working Committee :
Sri S. M. Kalyanaraman
" C. Rajasekara Mudaliar and
" P. K. Natesa Aiyar.
Auditor : " M. S. Kylasam.

The meeting then terminated with the annual tea.

**Visitors.** The Director of Agriculture, Madras was camping here from the 12th to the 16th in connection with the College Day and Conference. Sri Samiappa Mudaliar, M. L. C. visited the Agricultural College & Research Institute on the 22nd.

# Weather Review—JUNE 1939.

RAINFALL DATA

| Division | Station | Actual for month | Departure from normal @ | Total since January 1st |
|---|---|---|---|---|
| Circars | Gopalpore | 4·9 | -0·9 | 6·1 |
| | Calingapatam | 3·6 | -1·1 | 5·7 |
| | Vizagapatam | 1·9 | -3·0 | 4·8 |
| | Anakapalli* | 1·9 | -2·7 | 4·0 |
| | Samalkota* | | | |
| | Maruteru* | 1·2 | -2·6 | 2·6 |
| | Cocanada | 3·9 | -0·9 | 6·7 |
| | Masulipatam | 4·1 | -0·4 | 4·6 |
| | Guntur* | 2·3 | -1·2 | 3·2 |
| Ceded Dists. | Kurnool | 2·1 | -0·9 | 2·7 |
| | Nandyal* | 2·0 | 0·0 | 0·0 |
| | Hagari* | 2·0 | -0·3 | 2·6 |
| | Siruguppa* | 1·2 | -1·9 | 1·5 |
| | Bellary | 0·9 | -1·0 | 3·1 |
| | Anantapur | 3·3 | +1·3 | 5·9 |
| | Rentachintala | 2·9 | ... | 3·4 |
| | Cuddapah | 2·3 | -0·6 | 4·1 |
| | Anantharaju-pet* | 2·1 | +0·6 | 7·8 |
| Carnatic | Nellore | 0·3 | -1·0 | 4·3 |
| | Madras | 1·1 | -0·8 | 7·2 |
| | Palur* | 0·5 | -1·3 | 13·0 |
| | Tindivanam* | 2·6 | +0·4 | 9·4 |
| | Cuddalore | 0·2 | -1·3 | 16·2 |
| Central | Vellore | 1·6 | -0·8 | 10·1 |
| | Salem | 4·2 | +1·2 | 15·2 |
| | Coimbatore | 0·2 | -1·5 | 4·9 |
| | Coimbatore A. C. & R. I.* | 0·1 | -1·4 | 4·4 |
| | Trichinopoly | 3·7 | +2·3 | 14·5 |

| Division | Station | Actual for month | Departure from normal @ | Total since January 1st |
|---|---|---|---|---|
| South | Negapatam | 0·3 | -1·0 | 18·0 |
| | Aduthurai* | 0·1 | -1·4 | 16·4 |
| | Madura | 2·7 | +1·3 | 14·8 |
| | Pamban | 0·0 | -0·1 | 8·3 |
| | Koilpatti* | 0·0 | 0·0 | 0·0 |
| | Palamkottah | 0·0 | -0·6 | 5·0 |
| West Coast | Trivandrum | 12·1 | -1·3 | 28·1 |
| | Cochin | 41·1 | +12·6 | 63·2 |
| | Calicut | 33·6 | -0·9 | 43·7 |
| | Pattambi* | 22·1 | -1·8 | 33·1 |
| | Taliparamba* | 32·8 | -3·9 | 38·8 |
| | Kasargode* | 41·0 | +2·6 | 44·9 |
| | Nileshwar* | 29·7 | -11·2 | 32·9 |
| | Mangalore | 37·2 | +0·4 | 42·2 |
| Mysore and Coorg | Chitaldrug | 3·7 | +0·9 | 8·5 |
| | Bangalore | 3·3 | +0·5 | 12·4 |
| | Mysore | 1·6 | -1·3 | 10·6 |
| | Mercara | 12·9 | -9·9 | 15·8 |
| Hills | Kodaikanal | 3·2 | -1·0 | 20·0 |
| | Coonoor | | | |
| | Ootacamund* | 4·9 | +0·6 | 15·3 |
| | Nanjanad* | 4·9 | -2·7 | 11·3 |

*Meteorological Stations of the Madras Agricultural Department.

@ From average rainfall for the month calculated upto 1935 published in the Fort St. George Gazette.

Both the Bay of Bengal and the Arabian sea branches of the monsoon were active from the 2nd week of the month, causing general rain in Malabar, Konkan, and North Hyderabad and local rain in Mysore and the Bombay Deccan and a few falls in the Madras Deccan and North Madras Coast. The rainfall however was in defect throughout the Presidency.

Skies were moderately to heavily clouded in the western half of the Peninsula while it was lightly to moderately clouded elsewhere. Humidity was in excess in Malabar, Konkan and North Deccan while it was in defect in the North Madras Coast, South East Madras and the Madras Deccan.

Day temperature was above normal in North Madras coast, parts of South East Madras, Mysore and the Madras Deccan. Rentichintala recorded 115°F on the 3rd.

*Heavy rainfall.*

Calicut 4·6″ on the 7th.
Mangalore 8·1″ on the 16th.
Cochin 3·9″ on the 16th.
Pattambi 3·0″.
Nileshwar 3·4″.

**Weather Report for Agricultural College and Research Institute Observatory.**

Report No. 6/39.

| | | | |
|---|---|---|---|
| Absolute maximum in shade | ... | ... | 98·5°F |
| Absolute minimum in shade | ... | ... | 70·0°F |
| Mean maximum in shade | ... | ... | 90·5°F |
| Departure from normal | ... | ... | +1·5°F |
| Mean minimum in shade | ... | ... | 73·6°F |
| Departure from normal | ... | ... | +0·5°F |
| Total rainfall for the month | ... | ... | 0·08″ |
| Departure from normal | ... | ... | -1·40″ |
| Heaviest fall in 24 hours | ... | ... | 0·06″ |
| Number of rainy days | ... | ... | Nil. |
| Mean daily wind velocity | ... | ... | 7 m. p. h. |
| Departure from normal | ... | ... | -0·4 m. p. h. |
| Mean humidity at 8 hours | ... | ... | 64·8% |
| Departure from normal | ... | ... | -4·7% |

**Summary**. A south westerly wind characteristic of the monsoon set in on the 6th and continued to be active throughout the month. The monsoon however was not active. The rainfall was only 0·08″ which was far below normal. The maximum and minimum temperatures were above normal while the mean humidity was below normal. P. V. R. & F. L. D.

# Departmental Notifications.

## *Gazette Notification.*

### 1. Appointment.

Sri. S. N. Chandrasekhara Ayyar, Assistant in Botany, is appointed to Category 8 of Class I, Madras Agricultural Service to officiate as Lecturer in Botany with effect from the date of taking charge *Vice* Sri. P. S. Jivanna Rao, granted leave.

### 2. Leave.

| Name of officers. | Period of leave. |
|---|---|
| Sri. P. S. Jivanna Rao, Lecturer in Botany Agri. College, Coimbatore. | L. a. p. for 2 months and 13 days from the date of relief. |

## *Subordinate Services.*

### 1. Posting.

| Name of officers. | Posting. |
|---|---|
| Sri R. Sunderarajan. | A. D. Tanjore. |
| ,, K. Krishnan. | A. D. Fourth Circle. |
| ,, R. Guruswami Naidu. | A. D. Kaikalur. |
| ,, N. V. Krishnamachari. | First Circle. |
| ,, N. Sobhanadhri. | Asstt. in Cotton., A. R. S. Guntur. |
| ,, I. L. Narasimhalu. | Lab. Asst. Mycology, Coimbatore. |
| ,, N. Muthuswami. | Lab. Asst. Entomology, Coimbatore. |

## 2. Transfers.

| Name of officers. | From | To |
|---|---|---|
| Sri H. Govindaramayya, | A. D. (on leave) | F. M., A. R. S. Pattukottai. |
| " T. G. Muthuswami Ayyar. | F. M. A. R. S. Pattukottai, | F. M. A. R. S. Palur. |
| " K. V. Seshagiri Rao, | Asst. A. D. (on leave), | A. D Hindupur. |
| " S. V. Parthasarathy | Offg. Asst. in Cotton, A. R. S. Koilpatti, | Offg. Asst. A. R. S. Guntur. |
| " S. Sundaram, | Asst. in Cotton, | A. R. S., Koilpatti. |
| " D. Hanumantha Rao, | A. D. Kothapetta, | A. D. Kaikalur. |
| " N. Srinivasa Rao, | A. D. Hospet, | A. D. Kavali. |
| " K. Ramanujachari. | A. D. Kavali. | A. D. Nandyal. |
| " V. Chidamparam Pillai. | F. M. (on leave) | A. D. Sankarankoil. |
| " K. Gourangamurthy, | Offg. F. M. A. R. S. Samalkotta, | Offg. F. M, A. R. S Maruteru. |
| " K. L. Ramakrishna Rao, | Offg. Asst. in Cotton A. R. S. Koilpatti, | II. Circle. |
| Janab A. Azimuddin Sahib, | Offg. Live Stock Section, | A. D. (under training) Trichinopolly. |
| Sri K. V. Natesa Ayyar, | A. D. Ponneri, | S. A. G. M. C. Tindivanam. |
| " C. S. Krishnaswami, | F. M., A. R. S., Palur, | A. D., Chidambaram. |
| " P. V. Sambasiva Rao, | A. D., Ellore, | A. D. Kothapeta. |
| " K. V. Reddi Naidu, | A. D., Guntur | A. D. Vinukonda. |
| " M. Gopala Chetty, | A. D., Chidambaram, | A. D., Shiyali. |
| " L. K. Narayana Ayyar, | A. D., Shiyali, | A. D.. Tiruturaipundi. |
| " P. Kesavanunni Nambiar. | A. D., (on leave) | A. D., Mannantoddy. |
| Janab Mohamad Basheer Sahib. | Offg. Asst. in Entomology Coimbatore, | A. R. S. Tindivanam. |
| Sri U. Narasinga Rao, | Asst. in oil seeds A. R. S.. Tindivanam. | Asst. in oil seeds, Coimbatore. |
| " A. K. Annaswami Ayyar, | F. M., L. R. S. Hosur, | A. D. Sivaganga. |
| " M. C. Krishnaswami Sarma, | A. D. Sivaganga, | A. D., Sattur. |
| " P. A. Kunhiraman Nambiar, | A. D., *Sattur*, | A. *D., Dindigul.* |
| " M. Somayya, | F. M., A. R. S., Nandyal, | A. D., Kandukur, |
| " T. Krishna Reddi, | A. D. Koilkuntla, | A. R. S., Nandyal. |
| " S. Muthuswami, | A. D., Tiruttani. | A. D., Gudur. |
| " K. Varadachary, | A. D., Chingleput, | A. D., Saidapet. |
| " S. Kuppuswami Ayyangar, | A. D., Saidapet, | A. D., Trivellore, |
| " S. V. Parthasarathy, | A. D., Trivellore, | A. D., Chingleput. |
| " A. Gulam Ahmed Sahib, | A. D., Saidapet (on leave) | A. D., Madurantakam. |
| " P. S. Venkataswami Iyer, | A. D., Madurantakam, | A. D., Chingleput. |
| " R. Venkatarama Ayyar, | A. D., (on leave) | A. D., Karur. |
| " M. J. David, | A. D., Karur, | A. D. Mayavaram. |
| " U. S. Aiyaswami Iyer, | A. D., Mayavaram, | A. D. Karur. |
| " M. K. Swaminatha Ayyar, | A. D., Dindigul, | A. D., Papanasam. |
| " M. P. Guruswami Ayyar, | A. D. Papanasam, | A. D., Tanjore, |
| " T. N. Balasubramania Iyer. | A. D., Lalgudy, | A. D., Tanjore. |
| " N. Ranganathachary, | A. D., Anantapur, | A. D., Dhon. |
| " Y. Venkataswami, | Offg. A. D., Dhone. | A. D., Anantapur. |
| " V. Kondala Rao, | Asst. A. D., Vinukonda, | A. D., Sompeta, |
| " T. V. Krishnaswami Rao, | A. D., First Circle, | A. D., Vizagapatam. |

| | | |
|---|---|---|
| Sri. Bhairy Shiva Rao, | A. D., Vizagapatam | A. D., Tuni. |
| ,, M. Ramamurthy, | A. D. Tuni, | A. D., Beddapur. |
| ,, A. Ramohan Rao, | A. D., Peddapur, | A. D., Ellore. |
| ,, K. Veerabhadra Rao, | A. D , Jami, | A. D., Narasipatam. |
| ,, M. Satyanarayanamurthi, | A. D., Bobbili, | A. D., Yellamanachilli. |

### 3. Leave.

| Name of officers. | Period of leave. |
|---|---|
| Sri M. L. Narayana Reddy, A. D., Palakonda | L. a. p. on m. c. for 2 months from 20 -7—39. |
| ,, S. Viravarada Raju, A. D. (on leave) | Extension of l. a. p. on m. c. for 4 months from 19—7—39. |
| ,, M. K. Padmanabhan, Asst., A. R. S., Pattambi | Extension of l. a. p. on m. c. for 20 days from 15—7—39. |
| ,, P. Lakshminarayana, Asst. A. D., Cocanada | L. a. p. on m. c. for 4 months from 4—7—39. |
| ,, K. Krishna Menon, Asst. in Mycology, Coimbatore | L. a. p. for 15 days from 17—7—39. |
| ,, K. Ramaswami Ayyar, A. D., Palladam | L. a. p. for 3 months from 9—6—39. |
| ,, G. Sitaramasastri, A. D., Repalli | L. a. p. for 19 days from 3—7—39. |
| ,, R. Govindaramayya, A. D., Musiri | L. a. p. for 1 month from 3—7—39. |
| ,, C. S. Balasubramaniam., Asst. Entomology | Extension of l. a. p. for 1 month from 15—6—39. |
| ,, S. G. Aiyadurai, Asst. in Oil Seeds Section, Coimbatore | L. a. p. for 16 days from 6—7—39. |
| ,, K. M. Jacob, A. D. (on leave) | Extension of l. a. p. on m. c. for 2 months |
| ,, B. L. Narasimhamurthy, Asst. in Millets, A. R. S., Anakapalle | Earned leave for 30 days from 10—7—39. |
| ,, S. P. Fernando, Asst. A. D., Harur. | L. a. p. for 15 days from 7—7—39. |
| ,, P. R. Subramania Ayyar, A. D., Udayagiri | L. a. p. on m. c. for 3 months from 7—7—39. |
| ,, N. Annaswami Ayyar, A. D., Nandigama. | L. a. p. for 2 months from 25—6—39. |

# Agricultural College and Research Institute, Coimbatore.

## Additions to the Library during June 1939.

### A. Books.

1. *Soil Analysis: Physical and Chemical Methods (2nd Edition, Revd.).* Wright, C. H. (1939). 2. *Humus: Origin—Chemical Composition and Importance in Nature (2nd Edition, Revd ).* Waksman, S. A. (1938). 3. *New Research Data on Fertilizers.* Berliner, J. J. *Pub.* (1938). 4. *Oils and Fats: Production and International Trade —Part I—Vegetable oils and fats. (Studies of Principal Agricultural Products of the World Market.)* Imperial Institute of Agriculture. Rome-Pub. (1939). 5. *Report on the Marketing of Wheat in the Madras Presidency.* Gopalakrishna Raju, K. and Chakrapani Marar. (1939). 6. *Report on the Marketing of Tobacco in India and Burma.* India Agricultural Marketing Adviser Report. (1939). 7. *A Manual for Citrus Grower.* Horn, C. W., *Ed.* (1937). 8. *Farm Economics: Management and*

*Distribution.* App, A. & Waller, A. G. (1938). 9. *Farm Credit in Canada.* Easter Brook, W. T. (1938). 10. *Handbook for Indian Students: A Guide to the facilities for University and Professional studies and training in the United Kingdom, 8th Edition.* High Commissioner for India—London Publication. (1938).

## B. Annual Reports, Proceedings etc.

1. Agriculture and Animal Husbandry in India (Annual Report) 1936-37. 2. Assam Agricultural Department Annual Report 1937-38. 3. Ceylon Agricultural Department Annual Report 1937. 4. England Empire Cotton Growing Corporation—Administration Report, 1938-39. 5. Transactions of the Highland Agricultural Society of Scotland, 1939. 6. England East Malling Research Station Annual Report, 1938. 7. Zanzibar Agricultural Department Annual Report, 1938. 8. International Crop Improvement Association—Annual Report, 1938.

## C. New Periodicals.

1. "C. S. T. A. Review" (Canadian Society of Technical Agriculturists). 2. Agricultural History.